

# UPDATE: PLAISTOW WATER SYMPOSIUM

Plaistow Water—our history, resources, challenges & opportunities.



UPDATE 2015 FOR THE NH DES  
SOURCE WATER  
CONFERENCE

May 6<sup>th</sup> 2015



Plaistow, New Hampshire

Incorporated 1749

# TOWN OF PLAISTOW: OVERVIEW



- Plaistow ranks 40<sup>th</sup> in population (7,600) but would rank 7<sup>th</sup> or 8<sup>th</sup> if the Route 125 service population (25,000) were included
- Plaistow is the regional center, home to the regional middle & high schools
- As one of the gateway communities to and from New Hampshire, and key economic center in the region, the Town of Plaistow, has worked for over 20 years to improve strategies for transit oriented development and overall re-development.



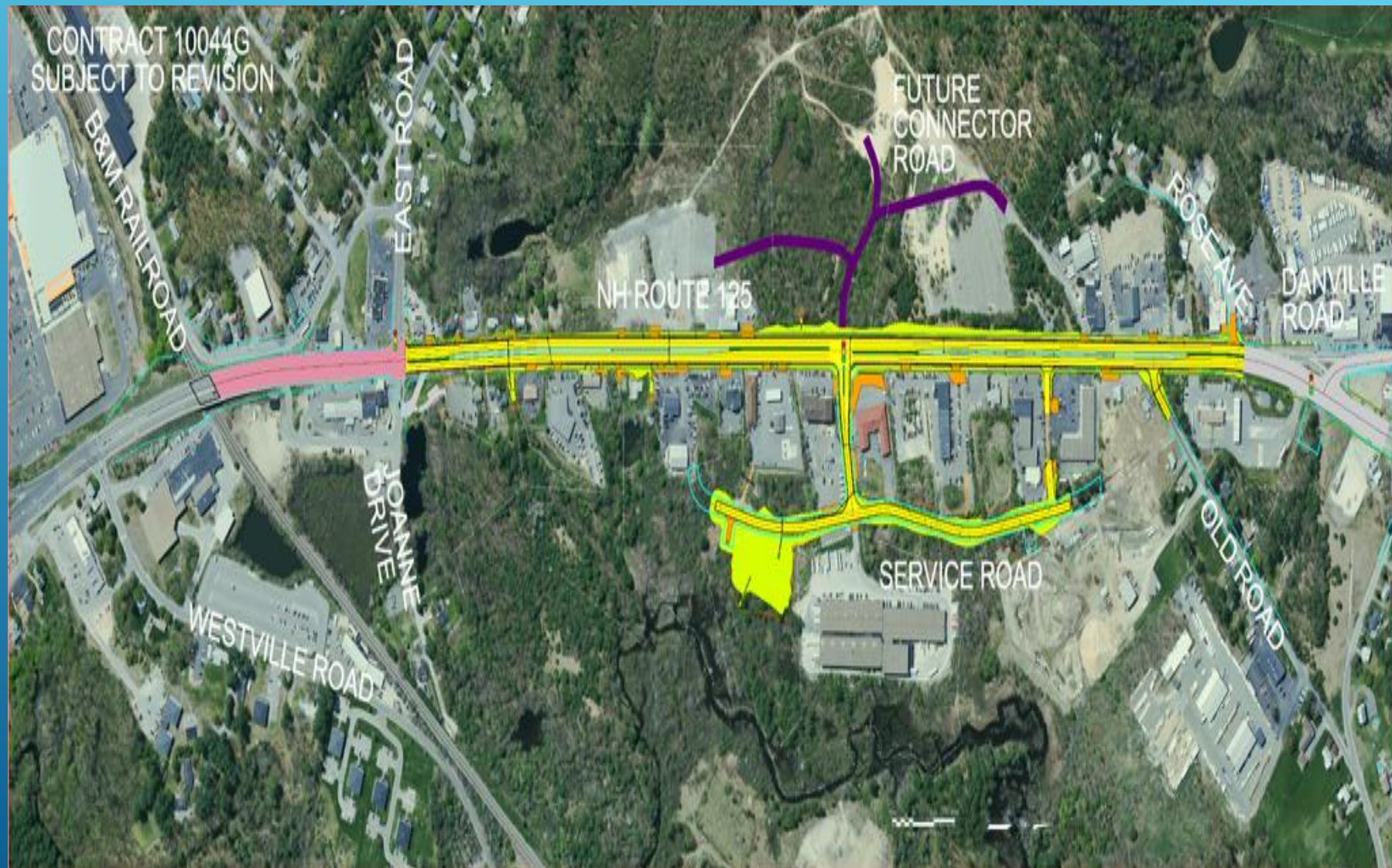
# PLAISTOW'S LIMITED WATER RESOURCES:

- ▶ As one of only two communities in New Hampshire that does not have a pond or water body sufficient for a municipal reservoir, the Town of Plaistow faces significant water resource challenges.
- ▶ Plaistow has a significant “stratified-drift” aquifer
- ▶ This Aquifer is large in size, but most of the aquifer is low-volume.
- ▶ Aquifer polluted by Beede site, Town landfill, salt shed, Lido gas station (underground storage tank leaks), and various junk yards.
- ▶ Plaistow's aquifer is now protected by
- ▶ Source Water Protection Plan;
- ▶ Aquifer District Overlay Zone
- ▶ Best Practice Stormwater Management Ordinance





# PLAISTOW IS BUSY—RT. 125 WIDENING



# WATER AS A CRITICAL RESOURCE:

- ▶ Stateline Plaza in Plaistow is connected to the City of Haverhill's municipal water and wastewater system.
- ▶ Remainder of Plaistow on private septic systems and private artesian water wells.
- ▶ The lack of public water and wastewater systems significantly limits economic development and job creation.
- ▶ Lack of water and sewer has resulted in:
  - ▶ Limited commercial use of properties along Route 125 (uniformity)
  - ▶ Lack of diversity in commercial, retail, and economic investments
  - ▶ Staggering additional costs and risks associated with failed commercial septic systems
  - ▶ Investing in water/wastewater infrastructure is an important public health responsibility and economic development tool.



# BACK TO THE FUTURE:

## PLAISTOW'S 1973 WATER/WASTE WATER RESOURCES ENGINEERING AND NEEDS ASSESSMENT



The Town funded a comprehensive feasibility study to establishing a municipal water system in 1973.

**Purpose:** To determine the feasibility of providing Plaistow with a municipal water system.

**Conclusion:** Municipal system technically and economically feasible with capacity to meets needs through 2030 (including demand for fire fighting).

### Preliminary Engineering Survey and Report

on the

Feasibility of Establishing  
a Municipal Water System

for the Town of

**Plaistow**

New Hampshire

June 1973

**Fenton G. Keyes Associates**

Architects - Engineers

321 South Main St., Providence, R. I.



# FENTON KEYES STUDY - 1973

## Implementation:

A series of stratified-drift wells and storage tanks along with a distribution system.

## Required Capacity:

Plaistow's 1973 population: 4,400; Projected 2030 population: 17,000+

(Plaistow's 2004/2005 build out analysis caps population at 13,000 with current zoning)

June 14, 1973  
"Our Twenty Second Year"

Board of Selectmen  
Town of Plaistow  
Selectmen's Office  
Town Hall  
Plaistow, New Hampshire 03865

Subject: Preliminary Engineering Study  
& Report on the Feasibility of  
Establishing a Municipal Water  
System for the Town of  
Plaistow, New Hampshire

Gentlemen:

In accordance with our contract we are pleased to present the following Preliminary Engineering Study and Report dealing with the Feasibility of Establishing a Municipal Water System in the Town of Plaistow.

Our studies find that a municipal water system in Plaistow is feasible both from an engineering and an economic standpoint; however, due to termination of federal construction grant programs for water systems, the cost to the individual customer will be somewhat higher than normally expected for water systems in this general size category which have been federally-aided. The recommended water supply system is gravel-packed wells. It is anticipated the capacity of each of these wells will range between 700 and 1000 gallons per minute. The geophysical survey performed as a part of these studies located several areas within the town which give strong indication of being able to support relatively high-capacity wells. These several areas are presently being explored and tested.

The recommended scope of the initial distribution system is shown on Sheets Nos. 2, 3 and 4 bound in Appendix A. With reasonable participation in the system by abutting landowners this general scope of distribution system is financially feasible. We have anticipated that 75 percent of all possible users of the system will connect in the beginning.

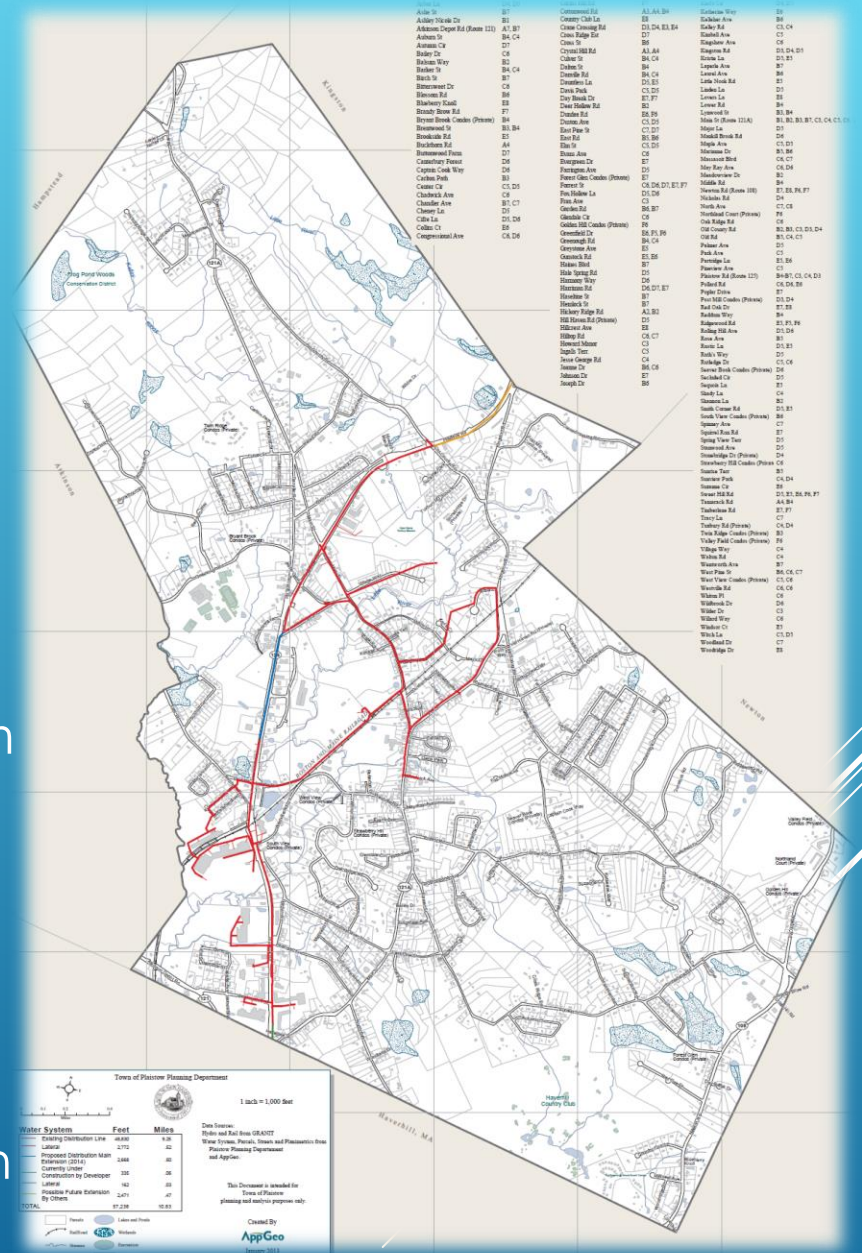
HENRY E. BLODEAU, P.E.  
KENNETH G. KEIFER, P.E.  
WALTER I. KEYES, P.E.

ASSOCIATE PARTNERS  
RAYMOND C. MURPHY, P.E.  
ERNEST E. KIRWAN, A.I.A.  
LEONARD N. BUCKLER, P.E.

ASSOCIATES  
LEWIS J. BAUN, P.E.  
ABRAHAM I. ISRAEL, P.E.  
JAMES L. BELL, P.E.  
PASQUALE C. CODOLA, P.E.  
DAVID I. CRIST, A.I.A.

# PLAISTOW'S FIRE SUPPRESSION SYSTEM

- ▶ Current system started in late 60's to protect 3 large industries who employed 70% of the people working in Plaistow:
  - ▶ Westville Homes
  - ▶ Process Engineering
  - ▶ Pennsylvania Box and Lumber Company
- ▶ Expanded throughout 70's, 80's, and 90's to meet the needs of the commercial growth on Rt. 125 as well as the beginning of plans for "loops" which prevent single failure points from disabling the entire system.
- ▶ Expansion in the 2000's have all of Rt. 125 covered by the system.
- ▶ Coordinated in phases to match the Rt. 125 widening efforts.
- ▶ Present day value of this system is estimated to range from \$10-\$15Million in infrastructure.





# PLAISTOW'S SOURCE WATER PROTECTION PLAN - 2000

- ▶ Plaistow Conservation Commission worked with Northeast Rural Water Association (NERWA) and Department of Environmental Services (DES) to form a Water Committee and to develop a source water protection plan.

## WATER COMMITTEE:

- ▶ Local, State, NEWRA officials
- ▶ Plaistow residents.

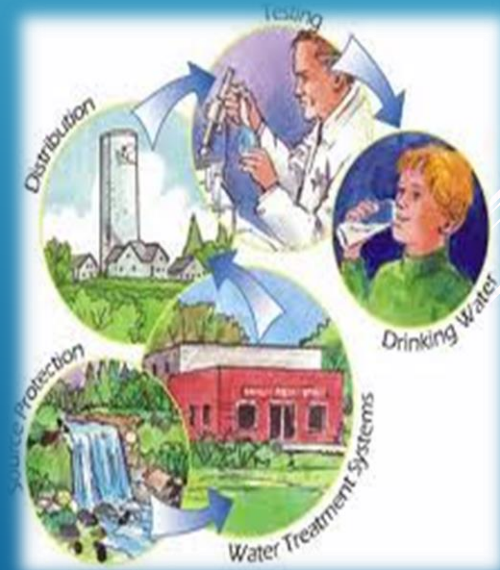
## PLAN IDENTIFIED:

- ▶ Sources of water
- ▶ Sources of contamination
- ▶ All public wells
- ▶ Need to develop an aquifer protection ordinance



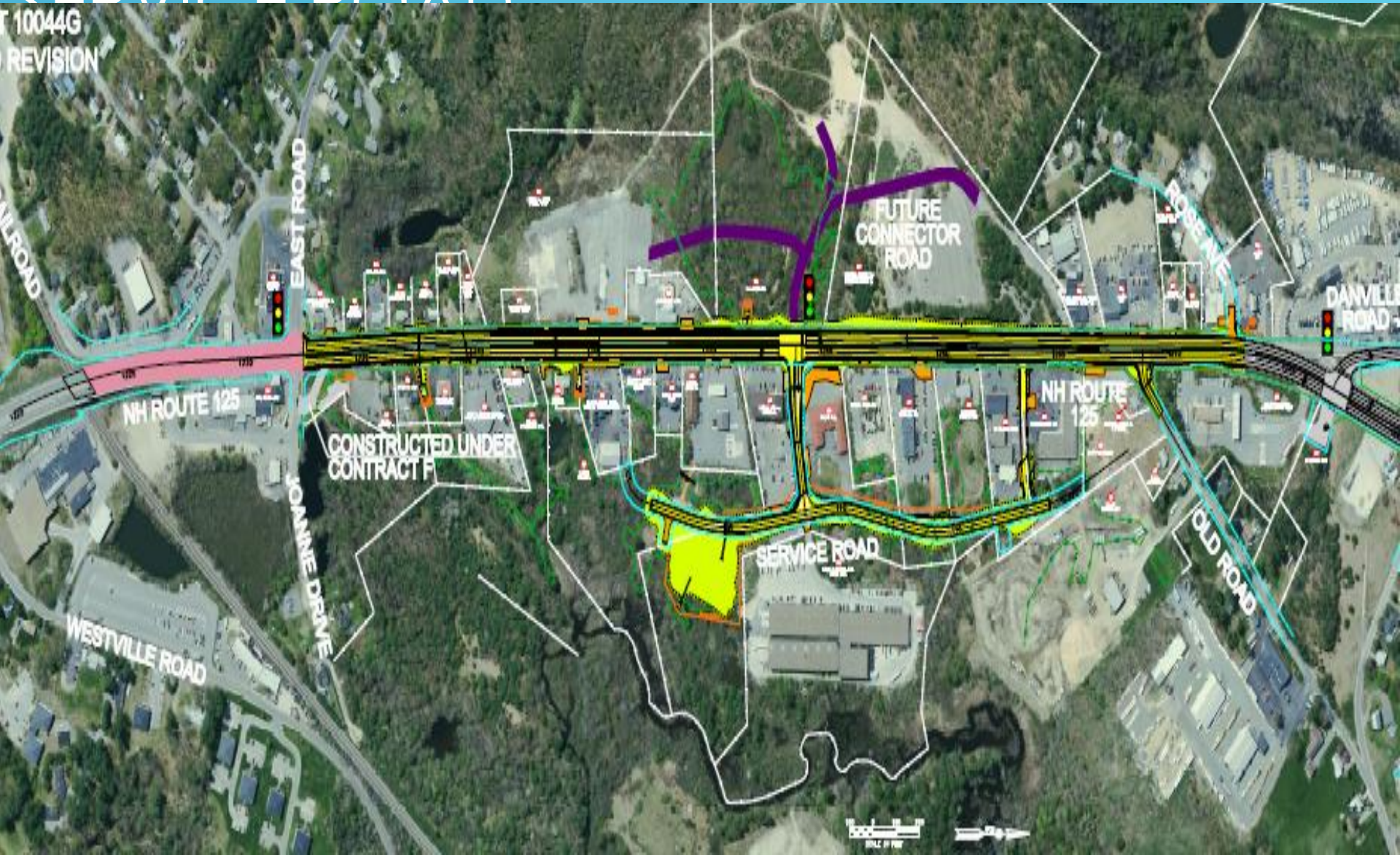
# PLAISTOW'S AQUIFER ORDINANCE REVIEW - 2004

- ▶ Conservation Commission and Planning Board amended zoning ordinance to include an aquifer protection overlay district in 2000.
- ▶ Conservation Commission hired the Conservation Law Foundation (CLF) to review the ordinance and make recommendations for improvements in 2004.
- ▶ Recommendations became effective at Town Meeting, March 2005.
- ▶ Recommendations fell into 3 categories:
  - ▶ Protect groundwater quality by preventing contamination.
  - ▶ Protect groundwater quantity by insuring adequate recharge.
  - ▶ Protect groundwater quantity by limiting lawn irrigation.



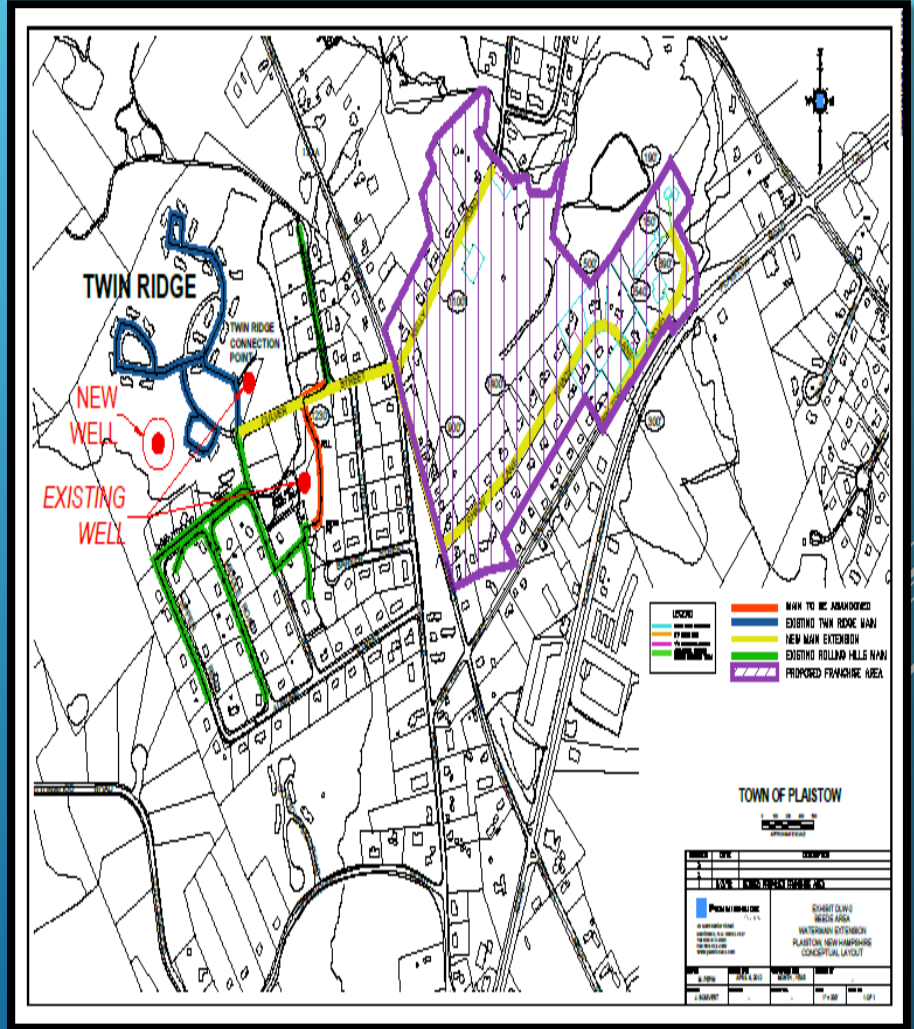
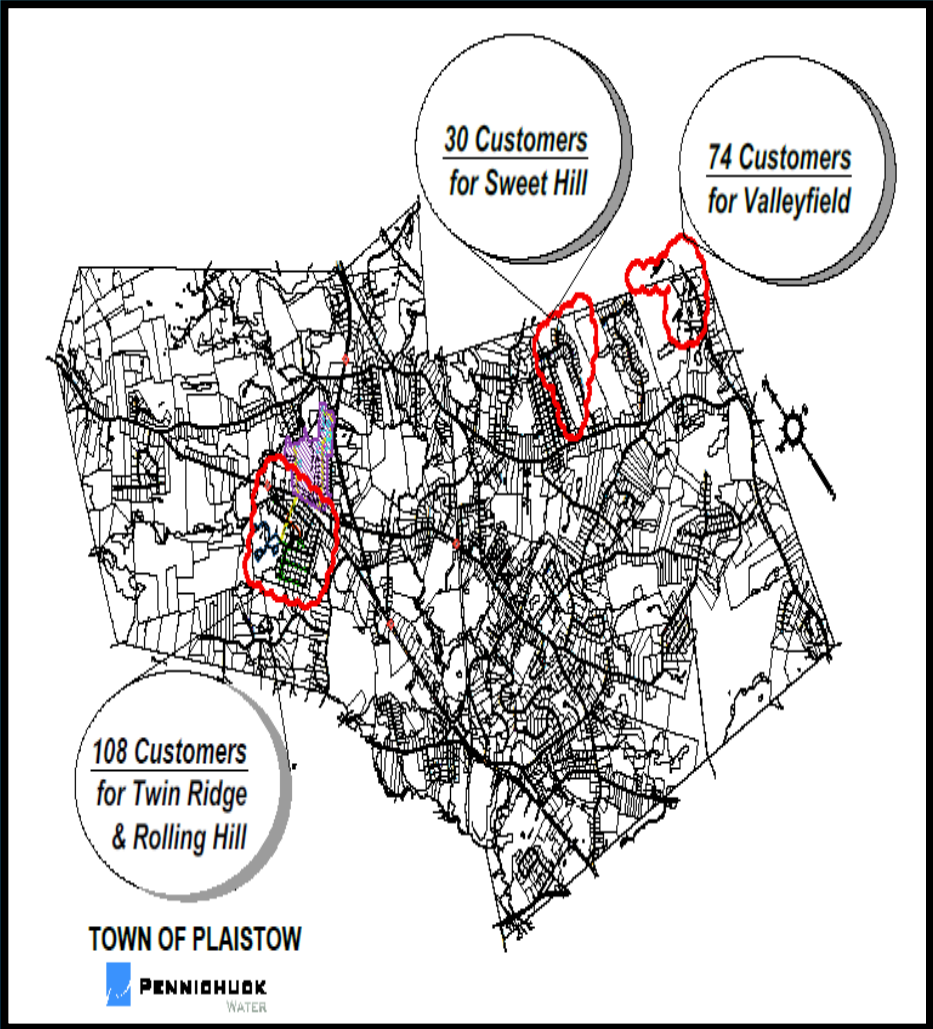


# ROUTE 125 WIDENING – FINAL PHASE IN PLAISTOW AND DEVELOPMENT OF A SERVICE ROAD





# PENNICHUCK'S WATER SYSTEMS IN PLAISTOW



# PLAISTOW'S 2013 WATER/WASTE WATER RESOURCES ENGINEERING AND NEEDS ASSESSMENT WARRANT

THE TOWN SOUGHT FUNDING TO UPDATE  
THIS COMPREHENSIVE ENGINEERING AND  
NEEDS ASSESSMENT REPORT TO ASSIST  
IN ESTABLISHING A MUNICIPAL WATER  
AND WASTE WATER TREATMENT SYSTEM  
FOR THE TOWN OF PLAISTOW AS PART OF  
THE 2013 TOWN MEETING—FAILED IN 2013  
BY 12 VOTES!



# 2013 WATER SYMPOSIUM:

## A) WATER RESOURCES IN PLAISTOW

- a. Plaistow's Water Resource Challenges- Sean Fitzgerald
- b. Geology/Hydrology - Brendon Kernen/Stephen Roy, NH DES
- c. Groundwater Contamination/Cleanup - Needs and Opportunities – Gary Lynn, NH DES
- d. Groundwater and Water System Protection – Pierce Rigrod/Paul Susca

## B) EXISTING AND FUTURE NEEDS AND OPPORTUNITIES

- a. Town of Bow Experience – Bill Klubben, Town of Bow
- b. Town of Windham/Exit 3 – Brendon Kernen
- c. Other Regional Efforts – Cliff Sinnott, Rockingham RPC
- d. Haverhill Water System – Bob Woodward, Haverhill Public Works

## C) FUNDING OPTIONS

- a. State and Federal Grants and Loans – Rick Skarinka, NH DES
- b. User fees – John Boisvert, Pennichuck Water Works



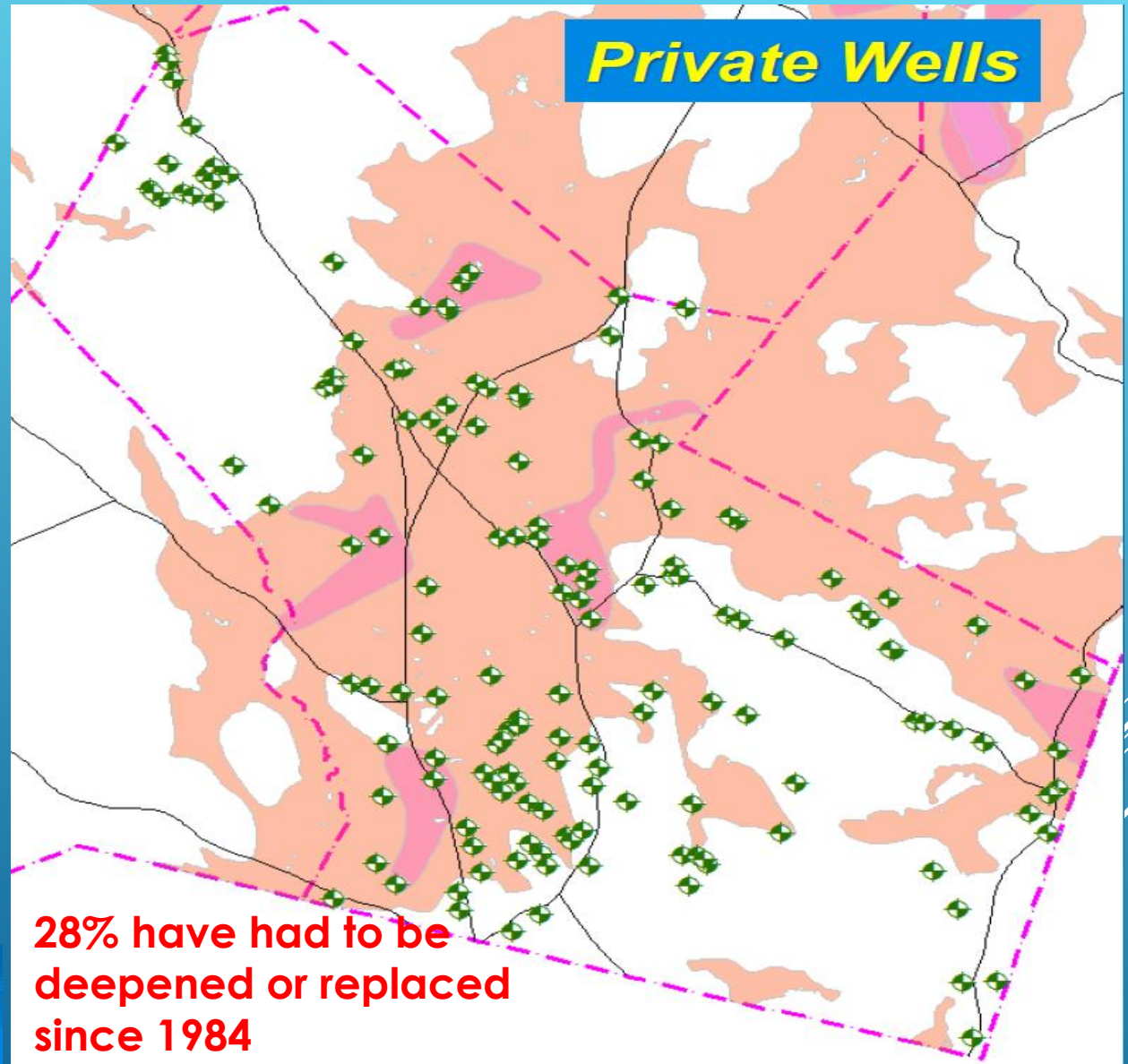


# PRESENTATION BY NHDES 9/11/13

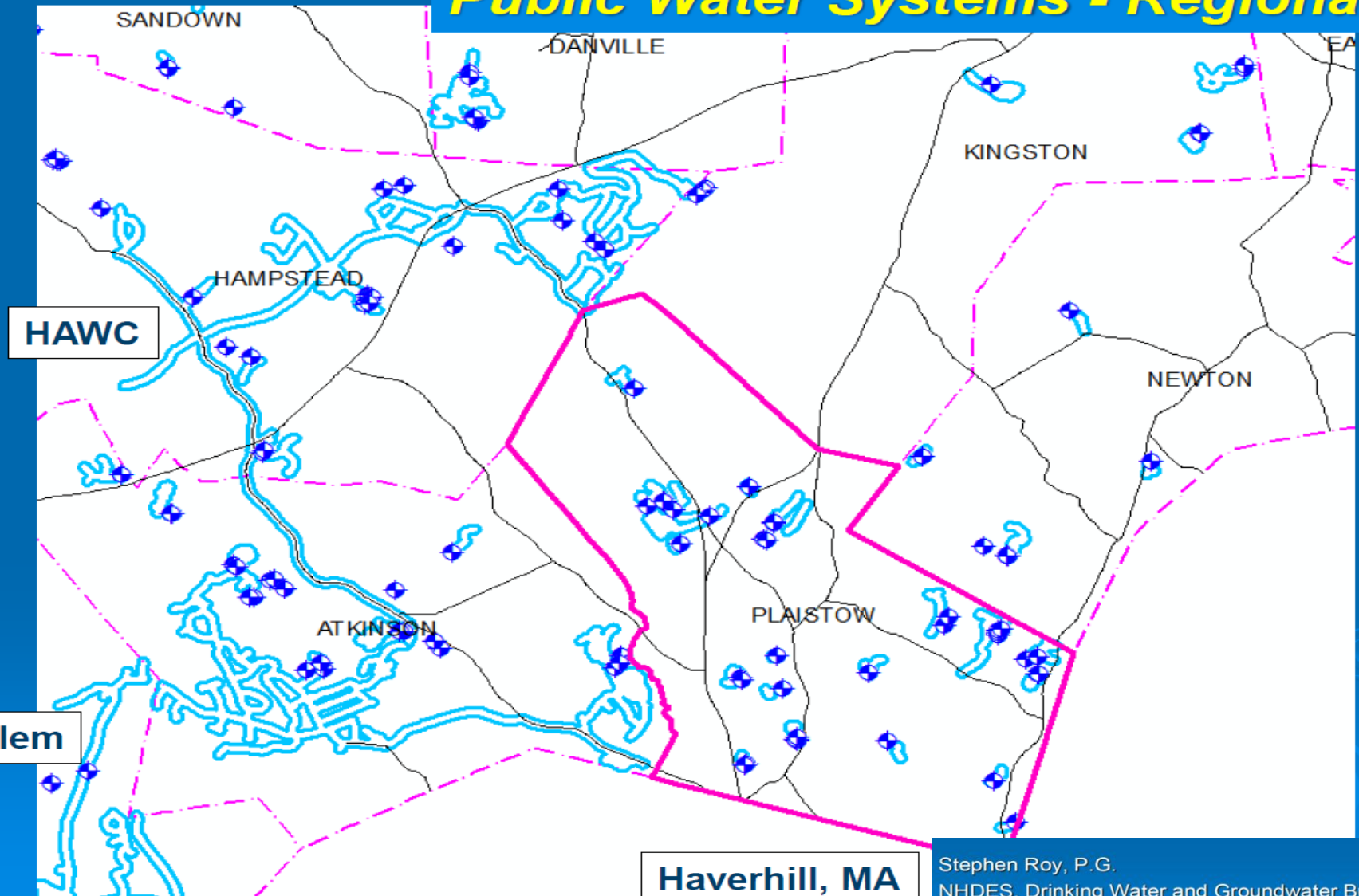
## Well Construction / Driller's Records

- Submitted starting 1984
- Statewide database
- Records info like:
  - Location-address
  - Total Depth
  - Casing
  - Yield estimate
  - Bedrock depth
  - Type (dom/comm)
  - Reason for
- 824 Total Records
- 681 Domestic Wells (probably represents about 30 to 40% of the private wells in town)
- Only 8 domestic wells identified as gravel, rest are drilled rock wells
- 187 identified under 'Reason' code by driller as *replacement or deepened* (~28%)

Stephen Roy, P.G.  
NHDES, Drinking Water and Groundwater Bureau  
Hydrology and Conservation Section  
[Stephen.Roy@des.nh.gov](mailto:Stephen.Roy@des.nh.gov)



## *Public Water Systems - Regional*



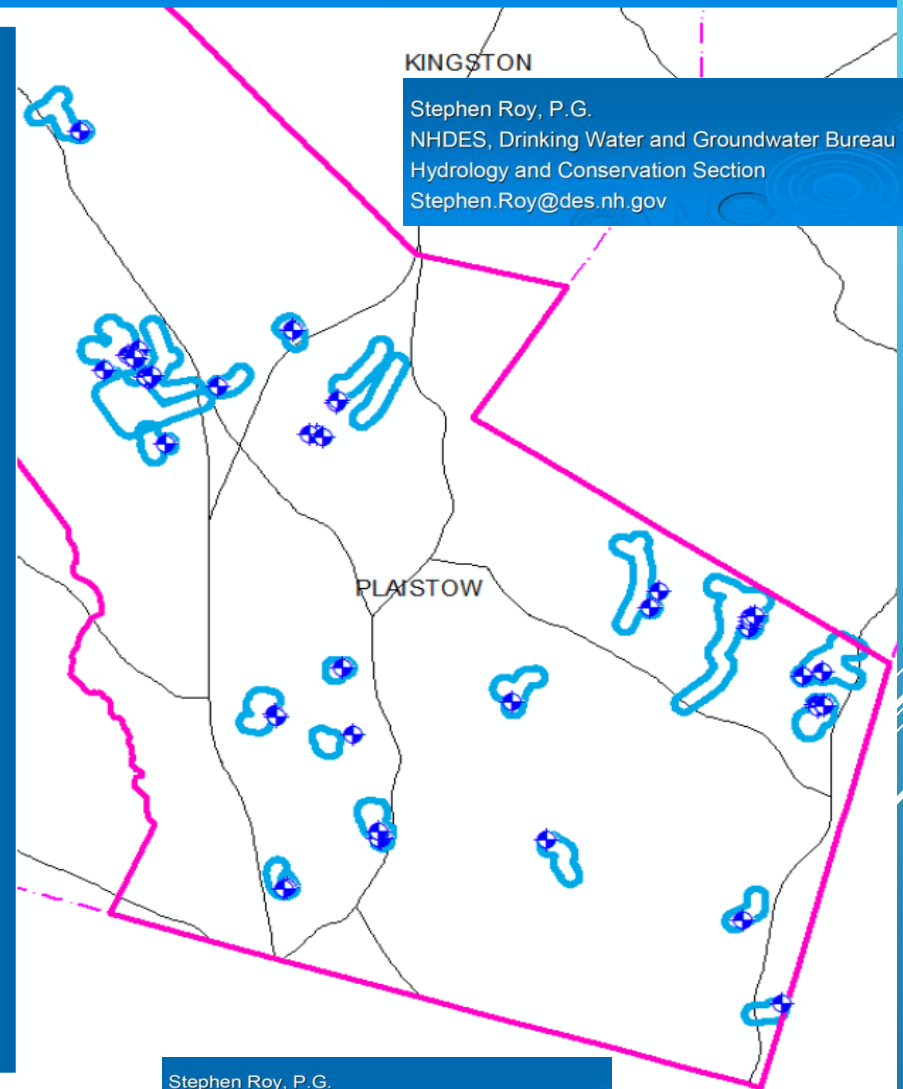
**Haverhill, MA**

Stephen Roy, P.G.  
NHDES, Drinking Water and Groundwater Bureau  
Hydrology and Conservation Section  
[Stephen.Roy@des.nh.gov](mailto:Stephen.Roy@des.nh.gov)

## ***Public Water Systems - Local***

### **Plaistow Community Water Systems**

- 20 Small Community Water Systems
- 16 association owned, 4 owned by private utilities
- Serve ~ 700 connections; or ~1,850 people
- Total of 37 approved community wells – bedrock
- Almost all approved yields below 15 gpm
- Numerous known well yield declines/failures/replacements



KINGSTON

Stephen Roy, P.G.  
NHDES, Drinking Water and Groundwater Bureau  
Hydrology and Conservation Section  
Stephen.Roy@des.nh.gov

PLAISTOW

Stephen Roy, P.G.  
NHDES, Drinking Water and Groundwater Bureau  
Hydrology and Conservation Section  
Stephen.Roy@des.nh.gov



# PRESENTATION BY NHDES 9/11/13

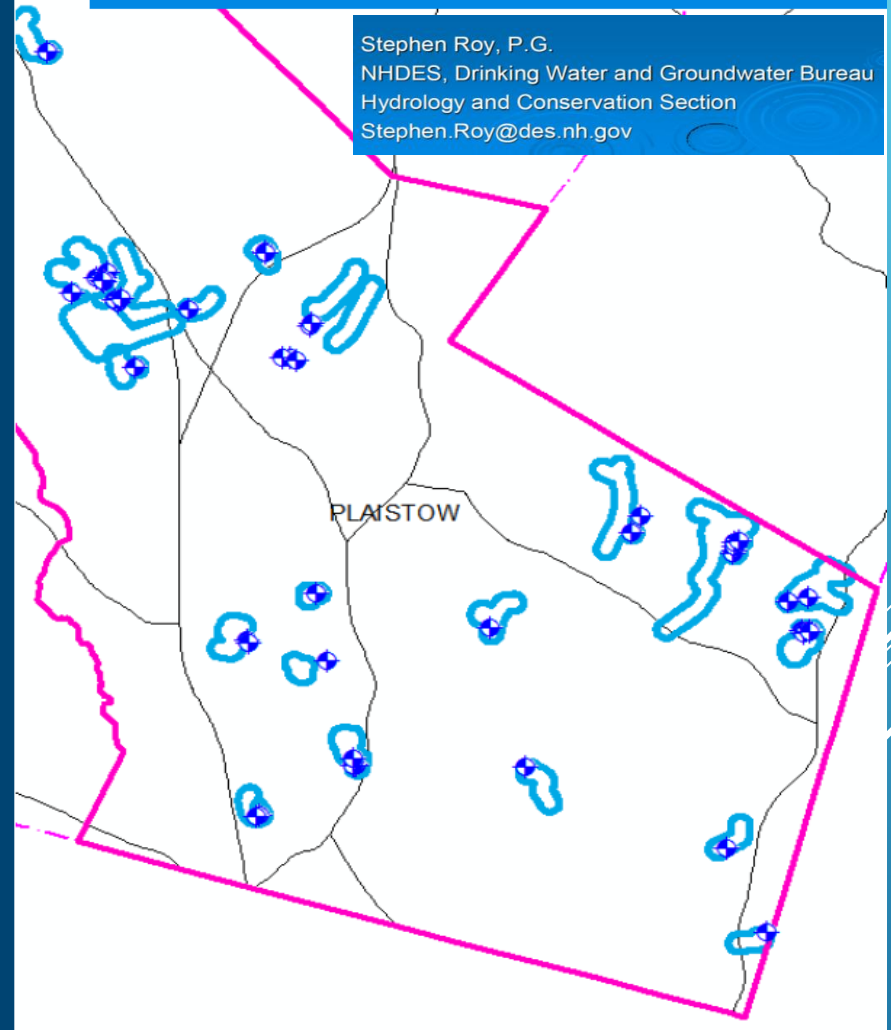
## Plaistow CWS cont..

- Fourteen (14) of 20 treat for naturally occurring constituents:
  - **Iron**
  - **Manganese**
  - **Arsenic**
  - **Radiological**
  - **Radon**
  - **Hardness**
- Twelve (12) of 20 have had detects of the following cultural constituents:
  - **Gasoline Constituents**
    - *BTEX/Ethers*
  - **Chlorinated Compounds**
    - *Volatile Organics*
  - **Semi. Vol. Organics**
    - *Plasticizers/herbs/pests*

*Many treat  
for 3 or more  
of these!!*

## Public Water Systems - Local

Stephen Roy, P.G.  
NHDES, Drinking Water and Groundwater Bureau  
Hydrology and Conservation Section  
[Stephen.Roy@des.nh.gov](mailto:Stephen.Roy@des.nh.gov)



## Summary

Stephen Roy, P.G.  
NHDES, Drinking Water and Groundwater Bureau  
Hydrology and Conservation Section  
[Stephen.Roy@des.nh.gov](mailto:Stephen.Roy@des.nh.gov)

- **Sand and Gravel deposits are in Town, however, may be limited in potential by:**
  - Limited thickness/saturation in most areas. i.e. Storage Limited;
  - Limited direct recharge due to nearby watershed boundary;
  - Limited induced recharge, no major regional surface water feature.
- **Other surficial deposits in town are most likely too fine grained to be viable high yield formations.**
- **Apparent low yield bedrock is the local water source for the majority of town residents (like many other towns):**
  - Bedrock may have little potential to be a high yield source.
  - Deeper, fine grained soil may limit recharge to bedrock.
  - Anecdotal information about replaced private well logs imply low yield bedrock may be relatively common and/or widespread.
  - NHDES experience with CWS is evidence of low yield bedrock.
  - Bedrock water quality is generally quite poor.

## **I93 - Exit 3 Water Supply**

- The 1990 Southern NH Water Supply Study identified extension of Merrimack River Water to SE NH as a priority
- The only other options for new large water sources in SE NH come from Massachusetts
  - Political/economic competition issues
  - Legal issues
  - Complicated and uncertain regulatory environment
  - Cost agreements (price or water)
- Hampstead Area Water relies on dozens of low yielding bedrock wells
- Large number of water systems with man-made or natural contaminants in Plaistow and Windham



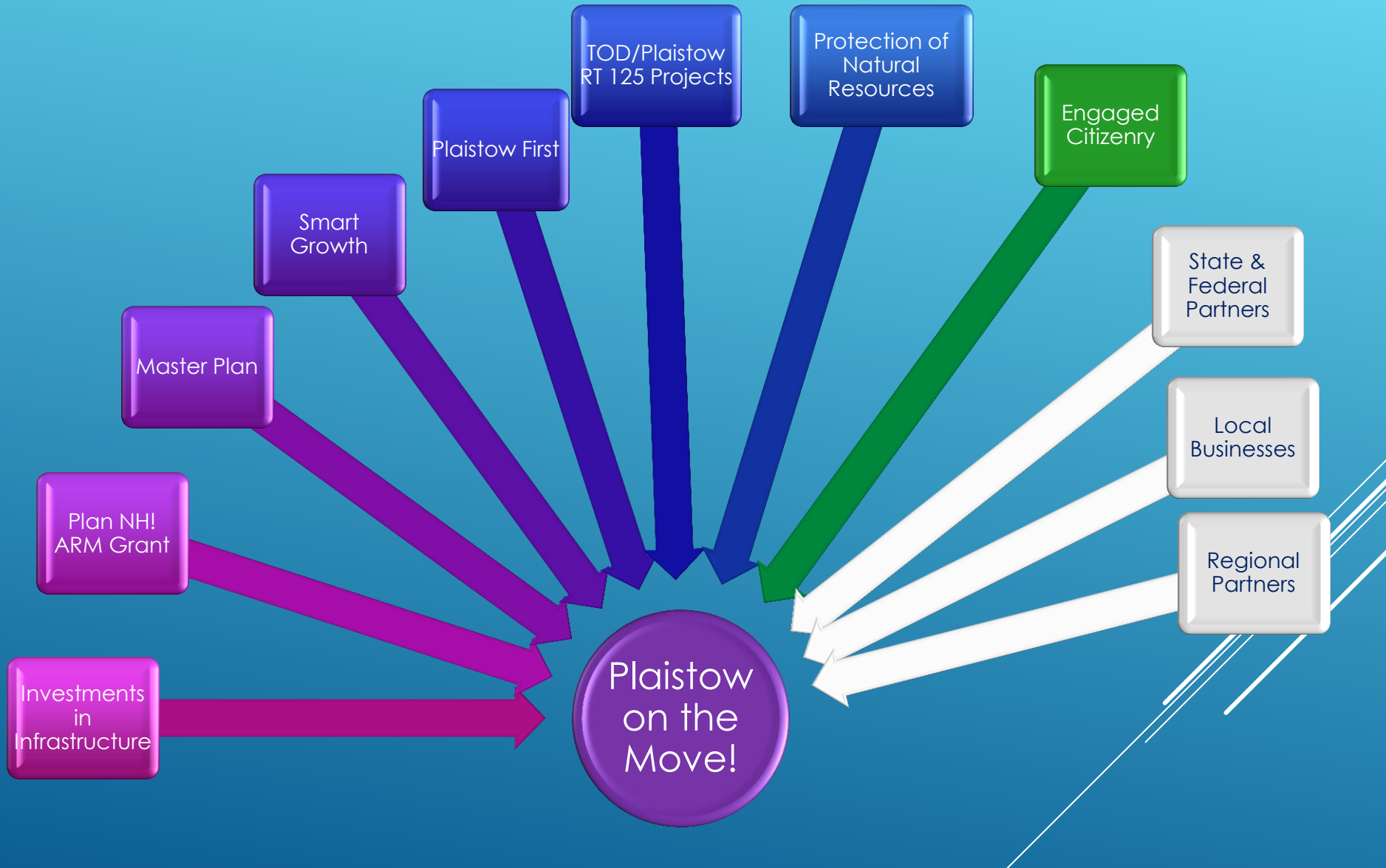
## **Extension of Merrimack River Water to Salem, Hampstead Area Water and Plaistow**

- Manchester WW to Salem – Approx 4.5 miles
- Pennichuck/Nashua to Salem – Approx 8 miles
- Hampstead Area Water and Salem water system service areas are within hundreds of feet of each other
- Hampstead Area Water service area extends up to Plaistow

Brandon Kernen

Brandon.Kernen@des.nh.gov/271-0660

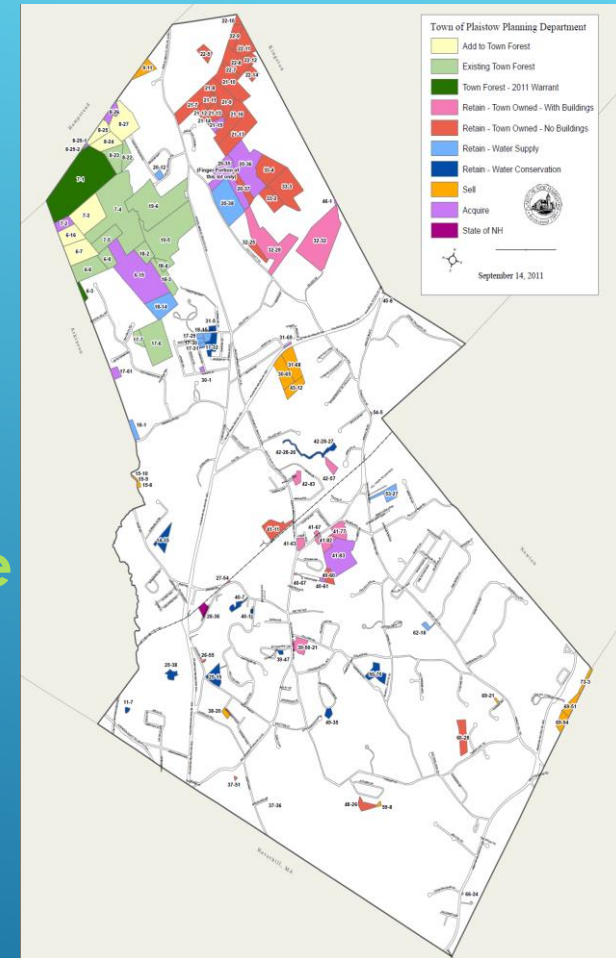
# PLAISTOW ON THE MOVE...



# COLLECTIVELY WORKING TO ENHANCE PLAISTOW'S QUALITY OF LIFE

- ❖ Active Board of Selectmen
- ❖ Active Planning Board
- ❖ Active Conservation Commission
- ❖ Active Recreation Commission
- ❖ Active Plaistow First Committee
  - ❖ Water Committee (Subcommittee of Plaistow First Committee)
- ❖ Active Public Safety Complex Committee
- ❖ Active Highway Safety Committee
- ❖ Active Elderly Affairs Committee
- ❖ Active Old Home Day Committee
- ❖ Supportive and involved Local, State, and Federal legislative Delegation:

Senator Jean Shaheen, Senator Kelly Ayotte; Congressman Frank Guinta; NH Senator Chuck Morse; NH Representative Norm Major





“VISION”

“LEADERSHIP”

“SAMENESS”



# PLAISTOW ON THE MOVE...AND FACING OUR FUTURE!

"Individual commitment to a group effort - that is what makes a team work, a company work, a society work, a civilization work." ~Vince Lombardi

HOW ABOUT A MAKING A TOWN OR A REGION WORK...



# PROTECTING PLAISTOW'S DRINKING WATER: PLANNING AND IMPLEMENTING A SERIES OF LOCAL GROUNDWATER PROTECTION MEASURES

NHDES/AGWT DRINKING WATER SOURCE PROTECTION CONFERENCE  
CONCORD, NH  
MAY 6, 2015





# Best Management Practices Program

- Groundwater Protection Act (RSA 485-C) passed in 1991.
  - ~60 % of NH residents rely on groundwater for their drinking water.
  - Many activities involve the use of materials that can contaminate groundwater, if not handled properly.
  - Recognized the need to protect the natural quality of groundwater.
- The GPA directed NHDES to adopt rules specifying Best Management Practices (BMPs) for Potential Contamination Sources (PCSs) that use regulated substances in quantities greater than 5 gallons.
- DES developed Env-Wq 401 Best Management Practices for Groundwater Protection.

# Best Management Practices Program

- BMPs are common-sense operating practices that are simple and economical to implement.
- BMPs designed to help prevent a release of regulated substances including:
  - **oil**, as defined under RSA 146-A,
  - **regulated contaminants**, established pursuant to RSA 485-C:6, and
  - **hazardous substances**, listed under federal regulations at 40 CFR 302.

# Best Management Practices Program

## Potential Contamination Sources (PCSs) listed in RSA 485-C:7

### Usually Requires Inspections

- Vehicle service & repair
- General service & repair
- Metalworking
- Manufacturing
- Waste & scrap processing
- Laboratories
- Hazardous waste facilities
- Concrete, asphalt, tar

### No Inspection Required

- Cemeteries
- Salt sheds
- Transportation corridors
- Septic systems
- Snow dumps
- Stormwater infiltration pond or leaching catch basin



# Best Management Practices Program Tasks

WD-06-47

## Managing Groundwater Protection Areas Guidance and Sample Letters

October 1995  
Revised December 2006

Prepared by

Source Water Protection Program  
Drinking Water & Groundwater Bureau  
Water Division



New Hampshire Department of Environmental Services  
Water Division  
29 Hazen Drive  
Concord, NH 03302

Thomas S. Burack, Commissioner  
Michael J. Walls, Assistant Commissioner  
Harry T. Stewart, P.E., Director



## Managing Groundwater Protection Areas:WD-06-47

- Guidebook for conducting groundwater protection programs and performing BMP compliance surveys.
- Series of flow charts
- Example letters and forms to use for various components of BMP program.

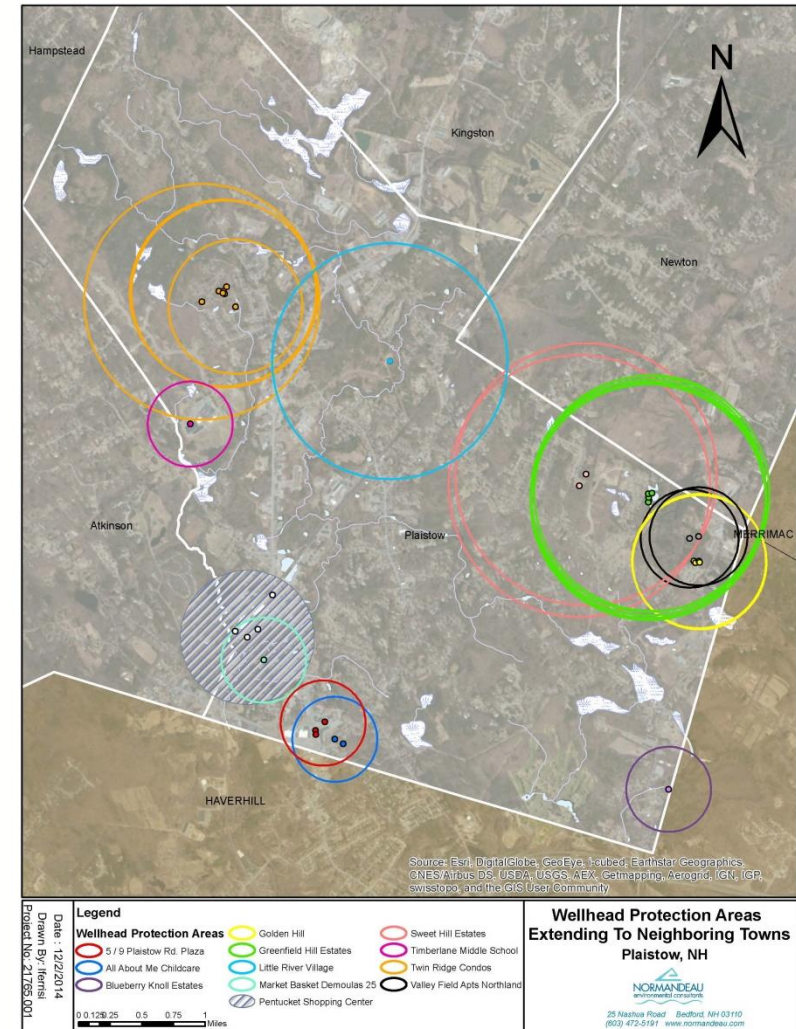
# Best Management Practices Program Tasks

1. **Notify municipalities of BMP program.**
2. Develop list of Potential Contamination Source (PCS) owners.
3. Conduct windshield survey to confirm/update PCS information.
4. Develop Inspection Program including Introductory Letter and Inspection Form.
5. Provide education and outreach for PCS owners.
6. Develop database to track inspections and follow up items.
7. Conduct Inventory Interviews with PCSs.
8. Conduct Survey/Inspection.
9. Send Follow-Up Letter after Survey/Inspection.

# Best Management Practices Program Tasks

## 1. Notify abutting municipalities of BMP survey program.

- If groundwater protection area extends into an abutting town.
- And PCSs exist in that Town.
- Prepare summary letter to inform Town of potential surveys.
- Confirm town representatives are aware of program.





# Best Management Practices Program Tasks

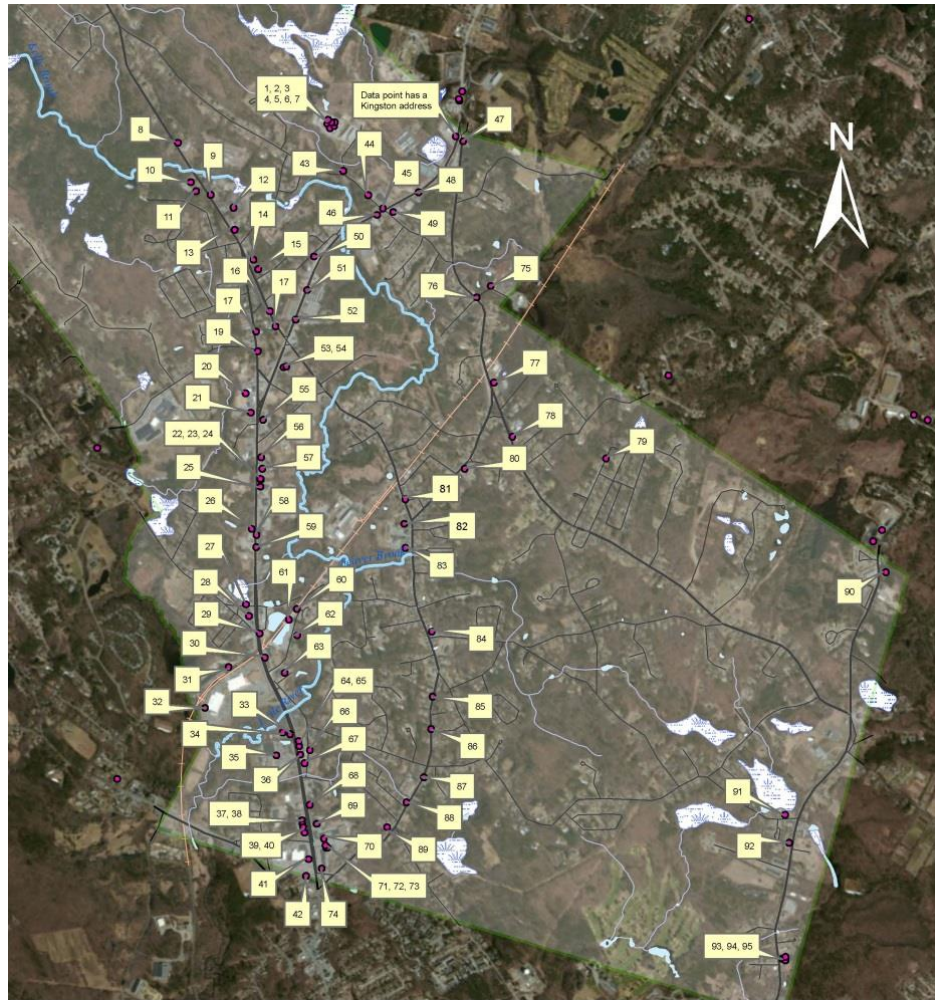
## **2. Develop list of Potential Contamination Source (PCS) owners.**

- Work with NHDES and OneStop to develop list of PCS owners.
- Develop map of PCS locations.
- Can use “Performing an Inventory for Drinking Water Protection” fact sheet (WD-DWGB-12-3) as a guideline.

# Best Management Practices Program Tasks

PLAISTOW NEW HAMPSHIRE POTENTIAL CONTAMINATION SOURCES (PCS)					
Map ID	GIS Site ID	PCS Name	Address	Project Type	Comments
16	PCS01863	A&N AUTOMOTIVE SPECIALISTS	RTE 121 A	VSR	
63	PCS01844	ACTION AUTO PARTS APW MACHINE SHOP	PLAISTOW SHOPPING CENTER	VSR	PT TAKEN IN PARKING LOT @ 30' S OF BUILDING
23	PCS01873	ALLURE HAIR STUDIO	95 PLAISTOW RD	CLN	
75	PCS01853	AME MOTOR EXPRESS	51 KINGSTON ROAD	EEE	
29	PCS01803	AMERIGAS	61 PLAISTOW RD/ROUTE 125	UST	FUEL
36	PCS01836	ANTON'S FABRICARE/CLEANERS	37 PLAISTOW RD GREAT ELM PLA	CLN	PT TAKEN @ 30' W OF FRONT DOOR
85	PCS01841	ARTEMUS JW PACKARD MD	75 MAIN ST	LAB	PT TAKEN FROM RD @ 45' FROM HOUSE
1	PCS01886	ASAP RESTORATION	FIELDSTONE INDUSTRIAL, 2 WILDER DRIVE	GSR	
17	PCS01862	ATI AUTO AND USED CARS	198 MAIN STREET	VSR	
54	PCS01796	AUTO BODY SUB REPAIR	137 PLAISTOW RD	VSR	AUTO REPAIR
59	PCS01857	AUTO EXCHANGE	87 PLAISTOW RD (RTE 125)	CARD	
15	PCS01887	BARBER SHOP	215 MAIN STREET	CLN	
40	PCS01831	BARON'S TV	BARON'S PLAZA/RTE 125	GSR	PT TAKEN @ 30' E OF FRONT DOOR
77	PCS01864	BECKWOOD SERVICES	27 HALE SPRINGS RD	MAN	
88	PCS01868	BERUBE TOOL AND DIE	34 MAIN STREET	MW	
21	PCS01866	BIGGART MARINE	PLAISTOW RD	GSR,VSR	ALSO CAMP AMERICA SERVICE CENTER (RV'S)
33	PCS01834	BILL DELUCA CPJ AUTO SALES & REPAIR	RTE 125	VSR	PT TAKEN @ 30' E OF FRONT DOOR
60	PCS01843	BLINN'S AUTO BODY & RECON	39 WESTVILLE RD	VSR	PT TAKEN IN PARKING LOT @ 14' NE OF BUILDING
27	PCS01856	BOB HARTS AUTO VILLAGE	ROUTE 125 AND EAST ROAD	CARD	
83	PCS01865	BROOKSIDE CHAPEL AND FUNERAL HOME	116 MAIN STREET	LAB	

# Best Management Practices Program Tasks



## Legend

- Potential Contamination Sources
- Plaistow
- Streams
- Lakes and Ponds
- Wetlands
- Impaired Stream
- State Roads
- Town Roads

Date: 7/17/2014  
Drawn By: Jlenisl  
Project No: 21765.001

0 0.2 0.4 0.8 1.2 1.6 Miles

## Potential Contamination Sources Plaistow, NH



25 Kinsbury Road Bedford, NH 03110  
(603) 472-5191 www.normandeau.com

Path: J:\CAD\UOR\Plaistow\NH\_Stormwater\21765\Plaistow Potential Contamination Sources2.mxd



# Best Management Practices Program Tasks

## 3. Conduct windshield survey to confirm/update PCS list.

- Review list of PCSs developed in Task 2.
- Conduct windshield survey to confirm businesses are still located at listed addresses.
- Additional PCSs may be identified and added to the list.

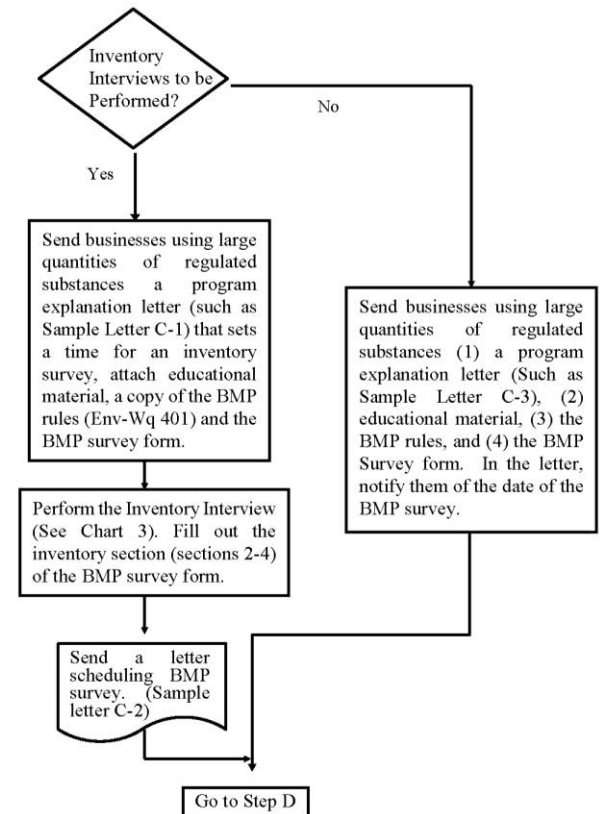


# Best Management Practices Program Tasks

## 4. Develop Inspection Program including Introductory Letter and Survey Form.

- Decide on whether you will conduct a separate telephone “inventory interview” or conduct it as part of survey/site visit.
- Prepare letter to send to PCS owners to introduce BMP “survey” program (see Task 5).
- Mailing for homeowners and non-PCS businesses (< 5 gallons) can be sent separately and earlier in program (see Task 5).
- Also develop or decide on which survey form to use.

Chart 2  
Step C: Notify PCSs, Perform Inventory Interviews



# Best Management Practices Program Tasks

## Survey Form and Instructions for Best Management Practice (BMP) Compliance



BMP surveys are conducted at facilities using more than household quantities of regulated substances in conjunction with local efforts to protect sources of drinking water. The surveys are conducted to ensure that each potential contamination source (PCS) is complying with New Hampshire's BMPs for Preventing Groundwater Contamination Rule, Env-Wq 401, so that the risk of groundwater and/or surface water contamination in the source protection area is minimized.

### Section 1. Survey Preparation

Follow the steps in this section to ensure that your surveys are conducted in a thorough and professional manner and to minimize the inconvenience to the PCS.

1. **Know the BMP Rules.** Knowledge of the Env-Wq 401 BMP rules will enable you to *know what to look for* during a survey. It is important to conduct your surveys as efficiently as possible so that you don't waste your time or that of the PCS. Knowing the BMP rules will speed up a survey, prevent oversights, and is essential to discuss compliance issues.
2. **Be sure each PCS** has received a copy of the Env-Wq 401 BMP rules and a DES fact sheet summarizing the BMP Rules *in advance* of your appointment to do the survey. Ask them to read the rules and offer to answer any questions before the survey. Many PCSs become more comfortable about a survey after realizing the "common sense" approach of the BMP rules. Bring several BMP fact sheets to each survey to distribute to the PCS representative(s).
3. **Know your Source Water Protection Area.** During a survey keep in mind where the PCS is situated relative to your source(s). This may help you make site-specific decisions about compliance issues. Bring a map showing your protection area(s) to the survey so the PCS can see that they are located inside the protection area.
4. **Know your Source Water Protection Area Management Plan.** Keep in mind the compliance mechanism of your management plan. One of the most commonly asked questions by PCSs is "How are the BMP rules enforced?" so you should be able to explain how you will achieve compliance with BMP violations. Emphasize that you will seek the *least costly and most practical* way to achieve compliance. Voluntary compliance is always the goal.
5. **Find out as much as you can about a PCS before you go** to the survey. It saves time to know site -specific background information, such as: what type of sewage disposal system does the PCS have; how long has the PCS been in business; and what was the historic usage of the PCS' property. Also, before the survey, think about site-specific concerns pertaining to the storage, handling and disposal of regulated materials. For example, before surveying a printing company, anticipate that you will need to know how they store, handle and dispose of ink products. Knowing key background data and anticipating site-specific compliance concerns will help prevent oversights and will make the survey more efficient.
6. **Be sure that the PCS understands** that a BMP survey is mutually beneficial. Explain that the Env-Wq 401 rules apply to all PCSs in New Hampshire, not just the ones within a source protection area. Also, explain that compliance with BMP rules may benefit them by: improving their environmental practices; reducing their overall environmental liability; and perhaps minimizing potential cleanup costs by preventing a release of hazardous substances. Your water system benefits from improved protection of your drinking water sources and reduced sampling costs.
7. If at all possible, **fill out Sections 2, 3, and 4 of this form before you go** to the PCS. Most PCS representatives are busy and will appreciate whatever you can do to minimize your time there. This is a good time to think about the site-specific concerns mentioned in (5) above.
8. **Know the BMP survey form.** During a survey, it is not always possible to fill out the form in the same order as the questions are written. Knowing the form makes it much easier to "skip around" while you are touring a facility.



# Best Management Practices Program Tasks

## **5. Provide education and outreach for Homeowners and non-PCS businesses (those who use less than 5 gallons)**

- Send letter detailing basic groundwater education and how to protect drinking water supplies.
- Include a fact sheet (i.e., Clean Drinking Water is Up to You!).
- Provide copies of fact sheets at Town Hall, on Town website, and with related town mailings (i.e., water bills).
- Should be an ongoing activity.

# Best Management Practices Program Tasks

## 5. Provide education and outreach for businesses on PCS list (those that use greater than 5 gallons)

- Send letter outlining BMP program and fact sheet summarizing BMP rules (DWGB-22-4 BMPs for Groundwater Protection).
- Keep it simple.
- Include web reference to Env-WQ 401 – BMP Rules in letter.
- We noted that someone from Town will be following up with a phone call to discuss BMP survey program (conduct inventory interview).
- Also include name and phone number of person who is conducting program if they have any questions and want to call you to discuss.

# Best Management Practices Program Tasks

## 6. Develop database to track inspections and follow up items.

- Develop database to track progress of survey program.
- Start early to track other items (windshield survey and mailing of PCS letters).
- Helpful if database is sortable and queries can be made.
- **Items to include:**
  - PCS name and address
  - Date of windshield survey
  - Mailing of introductory letter
  - Initial phone call made
  - Interview conducted
  - PCS letter sent
  - Survey/inspection conducted
  - Survey comments
  - BMP Rule violation
  - Follow up letter sent
  - Post Inspection required

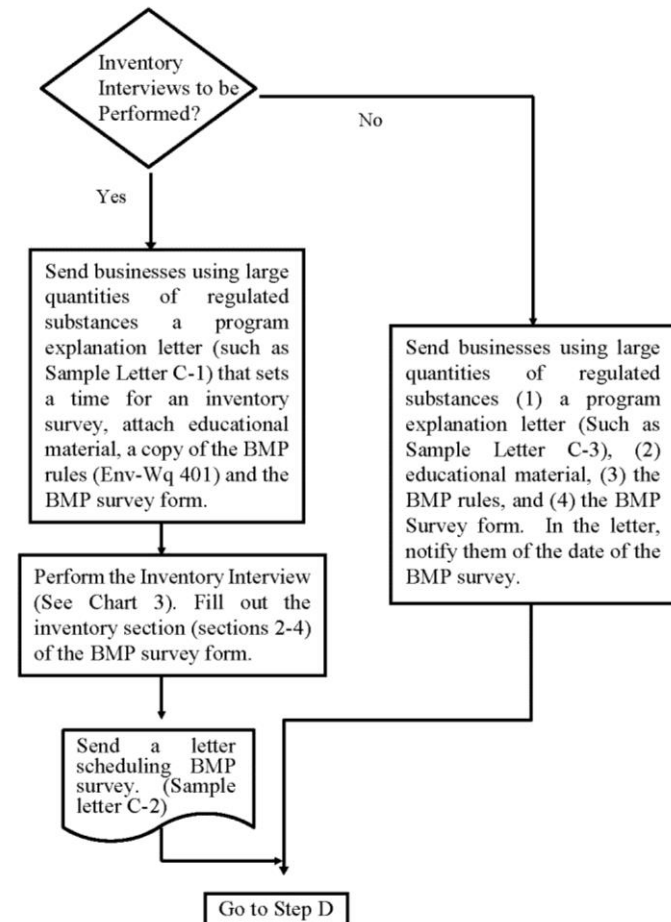


# Best Management Practices Program Tasks

## 7. Conduct Inventory Interviews with PCSs. Chart 2

Step C: Notify PCSs, Perform Inventory Interviews

- Decide if Inventory Interviews and Inspections will be conducted together (impacts letter in Step 5).
- Inventory Interview is completed using Section 4 – Inventory Verification part of survey form.
- Document:
  - A. What regulated substances are used, handled, or stored?
  - B. What regulated wastes are produced?
  - C. Are greater than household quantities of regulated substances or waste used, handled, or stored?



# Best Management Practices Program Tasks

**Are greater than household quantities of regulated substances or waste used, handled, or stored?**

## YES

- Schedule date to conduct survey/site visit to determine compliance with BMP rules.
- Update tracking database with results of interview.
- Follow up call to confirm scheduled survey/site visit.

## NO

- Do not need to conduct survey.
- Update tracking database with results of interview.
- File inventory form.

# Best Management Practices Program Tasks

- If during interview, it is determined that a follow up survey is required, schedule date for an on-site visit.
- Suggest they do a self-audit prior to survey visit.
- Remind them that 5-gallon and larger containers of petroleum products are covered by the BMP rules (except on-premises heating oil tanks and registered aboveground and underground storage tanks)
- Final reminder of purposes and benefits of the program:
  - protecting drinking water, and
  - minimizing their environmental liability.





# Best Management Practices Program Tasks

## 8. Conduct Survey/Inspections.

- Perform survey/inspection.
- Complete Section 5 – 7 of survey form.
- SECTION 5 : Review of regulated substance storage areas
  - Step A: List of all storage areas (exterior and interior)
  - Step B: Questions for outside storage
  - Step C: Questions for inside storage.
  - Questions for both outdoor and inside storage
    - Storage of substances
    - Transfer of substances
    - Release response information



to:

# Best Management Practices Program Tasks

## 8. Conduct Survey/Inspection.

### – Section 6: Floor Drains and Work Sinks

- Focus on floor drains near regulated substances.
- Drains in non-hazardous areas (kitchen, bathrooms) not covered by BMP rules.
- Work sinks used for parts washing - are they self-contained?
- Generally does not apply to sinks to wash hands.



### – Section 7: Storage tanks (USTs and ASTs)

- Are they required to be registered?
- Is transfer over impervious surface?
- Spill control and containment equipment?
- Release response information posted?
- Do ASTs have cover, secondary containment, or SPCC Plan?



# Best Management Practices Program Tasks

## 8. Conduct Survey/Inspection.

### Section 9. Final Questions (not for PCS owner)

- Any on-site septic systems or holding tanks that accept non-sanitary discharges?
- Any issues that need to be discussed with DES?
- Complete form; don't rely on memory.

### Section 10. Follow-up Procedures

- Discuss issues identified during survey.
- Let PCS know that you will follow up in writing with results of survey within 30 days.



# Best Management Practices Program Tasks

## 9. Send Follow-Up Letter after Inspections.

- If BMP violation, letter should include suggestions about how to correct non-compliance issues and reasonable deadlines.
- If no BMP violations were observed, letter saying so should be sent out.
- No need to submit survey form to NHDES but should be filed.
- Copy of survey form can be provided to PCS.
- Update database tracking system.
- Follow up inspection, if necessary, to confirm BMP issues have been addressed.



# Best Management Practices Program Tasks

## General topics:

- Recommend using the term “survey” versus “inspection”; key focus of program is to educate PCS owners on BMPs and protect drinking water.
- Program in Plaistow is voluntary. Program could be mandatory if Town requests Groundwater Re-classification or if there is a requirement in a local groundwater protection ordinance.
- Be ready to adjust and update program as you go along. Guidebook provides framework for program but each Town or program is going to be unique.

# Sources

- **Part Env-Wq 401 Best Management Practices for Groundwater Protection**, NHDES.
- **Best Management Practices (BMPs) for Groundwater Protection (WD-DWGB 22-4 2009)**, NHDES, 2009.
- **Managing Groundwater Protection Areas - Guidance and Sample Letters**, NHDES, October 1995 (revised December 2006).
- **The DES Guide to Groundwater Protection**, NHDES, (WD-07), February 1996 (revised October 2008).
- **Performing an Inventory for Drinking Water Protection (WD-DWGB-12-3)**, NHDES, 2012.

# Questions

Stephen Lee  
Principal Scientist  
Normandeau Associates, Inc.  
550 Forest Avenue, Suite 201  
Portland, Maine 04101  
207-518-6754  
[slee@normandeau.com](mailto:slee@normandeau.com)